by any known method, including implicit derivation from image data through methods such as hashing or cyclic redundancy checking (CRC). More particularly, when an image is created, duplicated, moved to a new location, or modified in any way including creating an image by combining other images, the resulting image is assigned a unique identifier. In order to facilitate tracking the image path, the unique identifier is not deleted or modified when the image is transferred or edited. The unique identifier may be a Global Unique Identifier (GUID). GUIDs are usually easy to generate and large enough to support unique identifiers. The unique identifier may be used in combination with the camera serial number and/or manufacturing code like UPC. Depending upon the specifics of the implementation of the invention on a particular device, the unique identifier may either be stored with the image (e.g., file system that supports extended file attributes, image file format that supports association of metadata with the image such as EXIF: Exchangeable Image File Format), or in a separate database. In the later case, a pointer to the location of the image may be stored together with the unique identifier.

A1 Cancel

Page 12, paragraph 3 (starting at line 18 and bridging page 13), please delete in its entirety and replace with the following:

Each device that employs the synchronization method according to the present invention, includes a program that manages image storage and synchronization. The program is usually part of the Operating System (OS) of the device, in the form of a system service or integrated into the device's file system or other storage system. The program that implements the method works in coordination with other software that manipulates digital images. The other software includes copy, transmit, image editing, synchronization and other programs. The program according to the present invention

A2 Cont

may provide an API to retrieve or store digital images. Because of the uniqueness of the identifiers associated with the images, the history graph and metadata may be stored separately from the images. In addition, multiple related images may share a single history graph.

A2 cncld.

Page 13, paragraph 2 (starting at line 13 and bridging page 14), please delete in its entirety and replace with the following:

The history graph and metadata of an image may be used for many purposes in addition to version synchronization. For example, an image's history may be examined by an editing tool to determine whether the image has had representations that may not be compatible with its new representation. More particularly, an image may be transferred from a Desktop PC to a mobile computing device such as personal digital assistant (PDA). Since mobile computing devices often have a much lower screen resolution than the Desktop PC, and also less storage space, it makes sense to create a lower resolution version of the image to be stored on such mobile computing devices. Later, the user of the mobile computing device may attempt to edit the image. The editing tool may examine the history of the image and inform the user that a copy of the image exists on their Desktop PC and that the changes applied to the image on the mobile computing device may not be transferable back to the copy residing on the Desktop PC. Alternatively, a merge tool may be able to understand the type of change and apply it to the other copy of the image (e.g., removing a blemish at a specified location of the image).

A3

Page 15, paragraph 1 (starting at line 7), please delete in its entirety and replace with the following:

A4

A specific example will be described with reference to FIGs. 3 and 4. In FIG 3, the processing evolution of an image is shown. The image 300 having GUID1 may be processed for red eye to arrive at the image 301 having GUID2. In addition, the image 302 having GUID3 may be cropped to arrive at the image 303 having GUID4. Finally, the images with GUID2 and GUID4 may be combined to form an image 305 with GUID5. The history graph corresponding to this image processing is shown in FIG. 4. The evolution of the image with GUID5 may be determined from the history graph shown in FIG. 4. Items 401 through 405 illustrate that, in this example, GUID5 is derived from images having Ids GUID2 and GUID4, which are further derived from images having GUID1 and GUID3, respectively. The history graph shown in FIG. 4 and the metadata may be transferred together with the image having GUID5 so that the recipient may determine the evolution of the image. The history graph and metadata for an image are not visible upon display. However, a program may read the information in the file and use it.

Page 16, first full paragraph (beginning at line 10 and bridging page 17), please delete in its entirety and replace with the following:

A5 Cont

FIG. 6 illustrates processing upon receipt of an image according to an aspect of the present invention. In step S1, an image is received. In step S2, it is determined whether the image was just captured or whether it was received from another source. If the answer in step S2 is Yes, then step S3 is performed and a unique identifier is generated for the image. If the answer in step S2 is No, then step S5 is performed to

determine whether the image has an associated unique identifier, metadata, and/or history graph. If the answer in step S5 is Yes, the processing proceeds to step S4. If the answer in step S5 is No, then a unique identifier is assigned to the image in step S6. In step S4, it is determined whether the received image was modified/combined with stored image(s) after being received. If the answer in step S4 is Yes, then, appropriate metadata describing the transformations or manipulations performed on the received image is added to the data field and a history graph is created for the image in step S8. Finally, the resulting image and the metadata/history graph are stored in step S9. If the answer in step S4 is No, then processing proceeds to step S9 and the image is stored together with its unique identifier. Once a unique identifier has been assigned in step S6, step S7 is performed to determine whether the received image was modified/combined with stored image(s) after being received. If the answer in step S7 is Yes, then, appropriate metadata describing the transformations or manipulations performed on the received image is added to the data field and the history graph for the image is updated in step S8. The resulting image and the metadata/history graph are then stored in step S9. --

A5 cncld.

IN THE DRAWINGS:

A proposed drawing change to Figure 3 is submitted herewith as a separate submission.